SEQUENCE LISTING

<110> Schulze-Lefert, Paul MJ
      Panstruga, Ralph
      Buschges, Rainer

<120> Polynucleotide and its use for modulating a defence
      response in plants

<130> 620-125

<140> US 09/722,377
<141> 2000-11-28

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<151> 1999-01-29

<150> PCT/GB97/02046
<151> 1997-07-29

<150> GB 9615879.5
<151> 1996-07-29

<150> GB 9622626.1
<151> 1996-10-30

<150> GB 9704789.8
<151> 1997-03-07

<160> 79

<170> PatentIn Ver. 2.1

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Arg Gln Phe Phe Arg Ser Val Thr Lys Val Asp Tyr Leu Thr Leu Arg
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Gly Ile Ser Leu Pro Leu Trp Gly Val Ala Ile Leu Thr Leu Phe Leu
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<210> 11
<211> 1611
<212> DNA
<213> Oryza sativa

<400> 11
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gcggcggctg cgtctcgcca gctgctagac gacccgccgg acaggaggtg gatggcatcc 1560
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<210> 12
<211> 1635
<212> DNA
<213> Hordeum vulgare

<400> 12
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<210> 13
<211> 1880
<212> DNA
<213> Arabidopsis thaliana

<400> 13
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tggcggtgga gcgtttgctt cactatttcg gtactgttct taagaagaag aagcaaaaac 240
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tacttgctga acatgctgct gtgcaagttg gttactgtag cgaaaagggt aaagtaccat 540
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aatgggagga ttcgatcgca gatgagaagt ttgaccccga aacagctctc aggaaaagaa 720
gggtcactca tgtacacaac catgctttta ttaaagagca ttttcttggt attggcaaag 780
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<210> 14
<211> 536
<212> PRT
<213> Oryza sativa

<400> 14

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Met Ala Gly Gly Arg Ser Gly Ser Arg Glu Leu Pro Glu Thr Pro Thr
1               5                   10                  15

Trp Ala Val Ala Val Val Cys Ala Val Leu Val Leu Val Ser Ala Ala
                20                  25                  30

Met Glu His Gly Leu His Asn Leu Ser His Lys Thr Thr Ala Glu Val
            35                  40                  45

Leu Ile Phe Leu Val Leu Ser Ala Leu Ala Glu Leu Met Leu Leu Gly
        50                  55                  60

Phe Ile Ser Leu Leu Leu Thr Val Ala Gln Ala Pro Ile Ser Lys Ile
65                  70                  75                  80

Cys Ile Pro Lys Ser Ala Ala Asn Ile Leu Leu Pro Cys Lys Ala Gly
                85                  90                  95

Gln Asp Ala Ile Glu Glu Glu Ala Ala Ser Gly Arg Arg Ser Leu Ala
            100                 105                 110

Gly Ala Gly Gly Gly Asp Tyr Cys Ser Lys Phe Asp Gly Lys Val Ala
        115                 120                 125

Leu Met Ser Ala Lys Ser Met His Gln Leu His Ile Phe Ile Phe Val
    130                 135                 140

Leu Ala Val Phe His Val Thr Tyr Cys Ile Ile Thr Met Gly Leu Gly
145                 150                 155                 160

Arg Leu Lys Met Lys Lys Trp Lys Lys Trp Glu Ser Gln Thr Asn Ser
                165                 170                 175

Leu Glu Tyr Gln Phe Ala Ile Asp Pro Ser Arg Phe Arg Phe Thr His
            180                 185                 190

Gln Thr Ser Phe Val Lys Arg His Leu Gly Ser Phe Ser Ser Thr Pro
        195                 200                 205

Gly Leu Arg Trp Ile Val Ala Phe Phe Arg Gln Phe Phe Gly Ser Val
    210                 215                 220

Thr Lys Val Asp Tyr Leu Thr Met Arg Gln Gly Phe Ile Asn Ala His
225                 230                 235                 240

Leu Ser Gln Asn Ser Lys Phe Asp Phe His Lys Tyr Ile Lys Arg Ser
                245                 250                 255

Leu Glu Asp Asp Phe Lys Val Val Val Gly Ile Ser Leu Pro Leu Trp
            260                 265                 270
```

Phe Val Gly Ile Leu Val Leu Phe Leu Asp Ile His Gly Leu Gly Thr
        275   280   285

Leu Ile Trp Ile Ser Phe Val Pro Leu Ile Ile Val Leu Leu Val Gly
        290   295   300

Thr Lys Leu Glu Met Val Ile Met Glu Met Ala Gln Glu Ile Gln Asp
305   310   315   320

Arg Ala Thr Val Ile Gln Gly Ala Pro Met Val Glu Pro Ser Asn Lys
                325   330   335

Tyr Phe Trp Phe Asn Arg Pro Asp Trp Val Leu Phe Phe Ile His Leu
                340   345   350

Thr Leu Phe His Asn Ala Phe Gln Met Ala His Phe Val Trp Thr Met
            355   360   365

Ala Thr Pro Gly Leu Lys Lys Cys Phe His Glu Asn Ile Trp Leu Ser
        370   375   380

Ile Val Glu Val Ile Val Gly Ile Ser Leu Gln Val Leu Cys Ser Tyr
385   390   395   400

Ile Thr Phe Pro Leu Tyr Ala Leu Val Thr Gln Met Gly Ser Asn Met
                405   410   415

Lys Lys Thr Ile Phe Glu Glu Gln Thr Met Lys Ala Leu Met Asn Trp
                420   425   430

Arg Lys Lys Ala Met Glu Lys Lys Lys Val Arg Asp Ala Asp Ala Phe
        435   440   445

Leu Ala Gln Met Ser Val Asp Phe Ala Thr Pro Ala Ser Ser Arg Ser
        450   455   460

Ala Ser Pro Val His Leu Leu Gln Val Thr Gly Arg Val Gly Arg Pro
465   470   475   480

Pro Ser Pro Ile Thr Val Ala Ser Pro Pro Ala Pro Glu Glu Asp Met
                485   490   495

Tyr Pro Val Pro Ala Ala Ala Ala Ser Arg Gln Leu Leu Asp Asp Pro
            500   505   510

Pro Asp Arg Arg Trp Met Ala Ser Ser Ser Ala Asp Ile Ala Asp Ser
        515   520   525

Asp Phe Ser Phe Ser Ala Gln Arg
    530   535

<210> 15
<211> 544
<212> PRT
<213> Hordeum vulgare

<400> 15

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Met Ala Gly Pro Ala Gly Gly Arg Glu Leu Ser Asp Thr Pro Thr Trp
1               5                   10                  15

Ala Val Ala Val Val Cys Ala Val Met Ile Leu Val Ser Val Ala Met
                20                  25                  30

Glu His Ala Leu His Lys Leu Gly His Trp Phe His Lys Trp Arg Lys
            35                  40                  45

Lys Ala Leu Gly Glu Ala Leu Glu Lys Met Lys Ala Glu Leu Met Leu
    50                  55                  60

Val Gly Phe Ile Ser Leu Leu Leu Ile Val Thr Gln Asp Pro Val Ser
65                  70                  75                  80

Arg Ile Cys Ile Ser Lys Glu Ala Gly Glu Lys Met Leu Pro Cys Lys
                85                  90                  95

Pro Tyr Asp Gly Ala Gly Gly Gly Lys Gly Lys Asp Asn His Arg Arg
            100                 105                 110

Leu Leu Trp Leu Gln Gly Glu Ser Glu Thr His Arg Arg Phe Leu Ala
            115                 120                 125

Ala Pro Ala Gly Val Asp Val Cys Ala Lys Gln Gly Lys Val Ala Leu
    130                 135                 140

Met Ser Ala Gly Ser Met His Gln Leu His Ile Phe Ile Phe Val Leu
145                 150                 155                 160

Ala Val Phe His Val Leu Tyr Ser Val Val Thr Met Thr Leu Ser Arg
                165                 170                 175

Leu Lys Met Lys Gln Trp Lys Lys Trp Glu Ser Glu Thr Ala Ser Leu
            180                 185                 190

Glu Tyr Gln Phe Ala Asn Asp Pro Ser Arg Cys Arg Phe Thr His Gln
            195                 200                 205

Thr Thr Leu Val Arg Arg His Leu Gly Leu Ser Ser Thr Pro Gly Val
    210                 215                 220

Arg Trp Val Val Ala Phe Phe Arg Gln Phe Phe Thr Ser Val Thr Lys
225                 230                 235                 240

Val Asp Tyr Leu Thr Leu Arg Gln Gly Phe Ile Asn Ala His Leu Ser
            245                 250                 255

Gln Gly Asn Arg Phe Asp Phe His Lys Tyr Ile Lys Arg Ser Leu Glu
            260                 265                 270

Asp Asp Phe Lys Val Val Val Arg Ile Ser Leu Lys Leu Trp Phe Val
            275                 280                 285

Ala Val Leu Ile Leu Phe Leu Asp Phe Asp Gly Ile Gly Thr Leu Leu
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Trp Met Ser Val Val Pro Leu Val Ile Leu Leu Trp Val Gly Thr Lys
305   310   315   320

Leu Glu Met Val Ile Met Glu Met Ala Gln Glu Ile His Asp Arg Glu
                  325   330   335

Ser Val Val Lys Gly Ala Pro Ala Val Glu Pro Ser Asn Lys Tyr Phe
                  340   345   350

Trp Phe Asn Arg Pro Asp Trp Val Leu Phe Leu Met His Leu Thr Leu
              355   360   365

Phe Gln Asn Ala Phe Gln Met Ala His Phe Val Trp Thr Val Ala Thr
    370   375   380

Pro Gly Leu Lys Lys Cys Tyr His Glu Lys Met Ala Met Ser Ile Ala
385   390   395   400

Lys Val Val Leu Gly Val Ala Ala Gln Ile Leu Cys Ser Tyr Ile Thr
              405   410   415

Phe Pro Leu Tyr Ala Leu Val Thr Gln Met Gly Ser His Met Lys Arg
              420   425   430

Ser Ile Phe Asp Glu Gln Thr Ala Lys Ala Leu Thr Asn Trp Arg Lys
              435   440   445

Met Ala Lys Glu Lys Lys Lys Ala Arg Asp Ala Ala Met Leu Met Ala
    450   455   460

Gln Met Gly Gly Gly Ala Thr Pro Ser Val Gly Ser Ser Pro Val His
465   470   475   480

Leu Leu His Lys Ala Gly Ala Arg Ser Asp Asp Pro Gln Ser Val Pro
              485   490   495

Ala Ser Pro Arg Ala Glu Lys Glu Gly Gly Gly Val Gln His Pro Ala
              500   505   510

Arg Lys Val Pro Pro Cys Asp Gly Trp Arg Ser Ala Ser Ser Pro Ala
              515   520   525

Leu Asp Ala His Ile Pro Gly Ala Asp Phe Gly Phe Ser Thr Gln Arg
    530   535   540

<400> 16
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Met Gly His Gly Gly Glu Gly Met Ser Leu Glu Phe Thr Pro Thr Trp
 1               5                    10                    15

Val Val Ala Gly Val Cys Thr Val Ile Val Ala Ile Ser Leu Ala Val
            20                  25                  30

Glu Arg Leu Leu His Tyr Phe Gly Thr Val Leu Lys Lys Lys Lys Gln
        35              40                  45

Lys Pro Leu Tyr Glu Ala Leu Gln Lys Val Lys Glu Glu Leu Met Leu
        50              55                  60

Leu Gly Phe Ile Ser Leu Leu Leu Thr Val Phe Gln Gly Leu Ile Ser
65                  70              75                      80

Lys Phe Cys Val Lys Glu Asn Val Leu Met His Met Leu Pro Cys Ser
                85                  90                  95

Leu Asp Ser Arg Arg Glu Ala Gly Ala Ser Glu His Lys Asn Val Thr
            100             105                 110

Ala Lys Glu His Phe Gln Thr Phe Leu Pro Ile Val Gly Thr Thr Arg
        115             120                 125

Arg Leu Leu Ala Glu His Ala Ala Val Gln Val Gly Tyr Cys Ser Glu
        130             135                 140

Lys Gly Lys Val Pro Leu Leu Ser Leu Glu Ala Leu His His Leu His
145                 150             155                 160

Ile Phe Ile Phe Val Leu Ala Ile Ser His Val Thr Phe Cys Val Leu
                165                 170                 175

Thr Val Ile Phe Gly Ser Thr Arg Ile His Gln Trp Lys Lys Trp Glu
            180             185                 190

Asp Ser Ile Ala Asp Glu Lys Phe Asp Pro Glu Thr Ala Leu Arg Lys
        195             200                 205

Arg Arg Val Thr His Val His Asn His Ala Phe Ile Lys Glu His Phe
        210             215                 220

Leu Gly Ile Gly Lys Asp Ser Val Ile Leu Gly Trp Thr Gln Ser Phe
225                 230             235                 240

Leu Lys Gln Phe Tyr Asp Ser Val Thr Lys Ser Asp Tyr Val Thr Leu
            245             250                 255

Arg Leu Gly Phe Ile Met Thr His Cys Lys Gly Asn Pro Lys Leu Asn
            260             265                 270

Phe His Lys Tyr Met Met Arg Ala Leu Glu Asp Asp Phe Lys Gln Val
        275             280                 285

Val Gly Ile Ser Trp Tyr Leu Trp Ile Phe Val Val Ile Phe Leu Leu
        290             295                 300
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Leu Asn Val Asn Gly Trp His Thr Tyr Phe Trp Ile Ala Phe Ile Pro
305   310   315   320

Phe Ala Leu Leu Leu Ala Val Gly Thr Lys Leu Glu His Val Ile Ala
            325   330   335

Gln Leu Ala His Glu Val Ala Glu Lys His Val Ala Ile Glu Gly Asp
            340   345   350

Leu Val Val Lys Pro Ser Asp Glu His Phe Trp Phe Ser Lys Pro Gln
        355   360   365

Ile Val Leu Tyr Leu Ile His Phe Ile Leu Phe Gln Asn Ala Phe Glu
    370   375   380

Ile Ala Phe Phe Phe Trp Ile Trp Val Thr Tyr Gly Phe Asp Ser Cys
385   390   395   400

Ile Met Gly Gln Val Arg Tyr Ile Val Pro Arg Leu Val Ile Gly Val
            405   410   415

Phe Ile Gln Val Leu Cys Ser Tyr Ser Thr Leu Pro Leu Tyr Ala Ile
            420   425   430

Val Ser Gln Met Gly Ser Ser Phe Lys Lys Ala Ile Phe Glu Glu Asn
        435   440   445

Val Gln Val Gly Leu Val Gly Trp Ala Gln Lys Val Lys Gln Lys Arg
    450   455   460

Asp Leu Lys Ala Ala Ala Ser Asn Gly Asp Glu Gly Ser Ser Gln Ala
465   470   475   480

Gly Pro Gly Pro Asp Ser Gly Ser Gly Ser Ala Pro Ala Ala Gly Pro
            485   490   495

Gly Ala Gly Phe Ala Gly Ile Gln Leu Ser Arg Val Thr Arg Asn Asn
            500   505   510

Ala Gly Asp Thr Asn Asn Glu Ile Thr Pro Asp His Asn Asn
            515   520   525

<210> 17
<211> 544
<212> PRT
<213> Hordeum vulgare

<400> 17
Met Ala Gly Pro Ala Gly Gly Arg Glu Leu Ser Asp Thr Pro Thr Trp
    1   5   10   15

Ala Val Ala Val Val Cys Ala Val Met Ile Leu Val Ser Val Ala Met
            20   25   30

Glu His Ala Leu His Lys Leu Gly His Trp Phe His Lys Trp Arg Lys
        35   40   45

Lys Ala Leu Gly Glu Ala Leu Glu Lys Met Lys Ala Glu Leu Met Leu
        50   55   60

Val Gly Phe Ile Ser Leu Leu Leu Ile Val Thr Gln Asp Pro Val Ser
65   70   75   80

Arg Ile Cys Ile Ser Lys Glu Ala Gly Glu Lys Met Leu Pro Cys Lys
                85   90   95

Pro Tyr Asp Gly Ala Gly Gly Gly Lys Gly Lys Asp Asn His Arg Arg
            100   105   110

Leu Leu Trp Leu Gln Gly Glu Ser Glu Thr His Arg Arg Phe Leu Ala
            115   120   125

Ala Pro Ala Gly Val Asp Val Cys Ala Lys Gln Gly Lys Val Ala Leu
            130   135   140

Met Ser Ala Gly Ser Met His Gln Leu His Ile Phe Ile Phe Val Leu
145   150   155   160

Ala Val Phe His Val Leu Tyr Ser Val Val Thr Met Thr Leu Ser Arg
                165   170   175

Leu Lys Met Lys Gln Trp Lys Lys Trp Glu Ser Glu Thr Ala Ser Leu
            180   185   190

Glu Tyr Gln Phe Ala Asn Asp Pro Ser Arg Cys Arg Phe Thr His Gln
        195   200   205

Thr Thr Leu Val Arg Arg His Leu Gly Leu Ser Ser Thr Pro Gly Val
210   215   220

Arg Trp Val Val Ala Phe Phe Arg Gln Phe Phe Thr Ser Val Thr Lys
225   230   235   240

Val Asp Tyr Leu Thr Leu Arg Gln Gly Phe Ile Asn Ala His Leu Ser
            245   250   255

Gln Gly Asn Arg Phe Asp Phe His Lys Tyr Ile Lys Arg Ser Leu Glu
            260   265   270

Asp Asp Phe Lys Val Val Val Arg Ile Ser Leu Lys Leu Trp Phe Val
            275   280   285

Ala Val Leu Ile Leu Phe Leu Asp Phe Asp Gly Ile Gly Thr Leu Leu
            290   295   300

Trp Met Ser Val Val Pro Leu Val Ile Leu Leu Trp Val Gly Thr Lys
305   310   315   320

Leu Glu Met Val Ile Met Glu Met Ala Gln Glu Ile His Asp Arg Glu
            325   330   335

```
Ser Val Val Lys Gly Ala Pro Ala Val Glu Pro Ser Asn Lys Tyr Phe
              340             345             350

Trp Phe Asn Arg Pro Asp Trp Val Leu Phe Leu Met His Leu Thr Leu
              355             360             365

Phe Gln Asn Ala Phe Gln Met Ala His Phe Val Trp Thr Val Ala Thr
    370             375             380

Pro Gly Leu Lys Lys Cys Tyr His Glu Lys Met Ala Met Ser Ile Ala
385             390             395             400

Lys Val Val Leu Gly Val Ala Ala Gln Ile Leu Cys Ser Tyr Ile Thr
              405             410             415

Phe Pro Leu Tyr Ala Leu Val Thr Gln Met Gly Ser His Met Lys Arg
              420             425             430

Ser Ile Phe Asp Glu Gln Thr Ala Lys Ala Leu Thr Asn Trp Arg Lys
              435             440             445

Met Ala Lys Glu Lys Lys Lys Ala Arg Asp Ala Ala Met Leu Met Ala
    450             455             460

Gln Met Gly Gly Gly Ala Thr Pro Ser Val Gly Ser Ser Pro Val His
465             470             475             480

Leu Leu His Lys Ala Gly Ala Arg Ser Asp Asp Pro Gln Ser Val Pro
              485             490             495

Ala Ser Pro Arg Ala Glu Lys Glu Gly Gly Gly Val Gln His Pro Ala
              500             505             510

Arg Lys Val Pro Pro Cys Asp Gly Trp Arg Ser Ala Ser Ser Pro Ala
              515             520             525

Leu Asp Ala His Ile Pro Gly Ala Asp Phe Gly Phe Ser Thr Gln Arg
    530             535             540
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<210> 18
<211> 536
<212> PRT
<213> Oryza sativa

<400> 18
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Met Ala Gly Gly Arg Ser Gly Ser Arg Glu Leu Pro Glu Thr Pro Thr
  1             5              10              15

Trp Ala Val Ala Val Val Cys Ala Val Leu Val Leu Val Ser Ala Ala
              20              25              30

Met Glu His Gly Leu His Asn Leu Ser His Lys Thr Thr Ala Glu Val
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                35                      40                      45

Leu Ile Phe Leu Val Leu Ser Ala Leu Ala Glu Leu Met Leu Leu Gly
    50                      55                      60

Phe Ile Ser Leu Leu Leu Thr Val Ala Gln Ala Pro Ile Ser Lys Ile
 65                      70                      75                      80

Cys Ile Pro Lys Ser Ala Ala Asn Ile Leu Leu Pro Cys Lys Ala Gly
                85                      90                      95

Gln Asp Ala Ile Glu Glu Glu Ala Ala Ser Gly Arg Arg Ser Leu Ala
                100                     105                     110

Gly Ala Gly Gly Gly Asp Tyr Cys Ser Lys Phe Asp Gly Lys Val Ala
                115                     120                     125

Leu Met Ser Ala Lys Ser Met His Gln Leu His Ile Phe Ile Phe Val
    130                     135                     140

Leu Ala Val Phe His Val Thr Tyr Cys Ile Ile Thr Met Gly Leu Gly
145                     150                     155                     160

Arg Leu Lys Met Lys Lys Trp Lys Lys Trp Glu Ser Gln Thr Asn Ser
                165                     170                     175

Leu Glu Tyr Gln Phe Ala Ile Asp Pro Ser Arg Phe Arg Phe Thr His
                180                     185                     190

Gln Thr Ser Phe Val Lys Arg His Leu Gly Ser Phe Ser Ser Thr Pro
                195                     200                     205

Gly Leu Arg Trp Ile Val Ala Phe Phe Arg Gln Phe Phe Gly Ser Val
    210                     215                     220

Thr Lys Val Asp Tyr Leu Thr Met Arg Gln Gly Phe Ile Asn Ala His
225                     230                     235                     240

Leu Ser Gln Asn Ser Lys Phe Asp Phe His Lys Tyr Ile Lys Arg Ser
                245                     250                     255

Leu Glu Asp Asp Phe Lys Val Val Val Gly Ile Ser Leu Pro Leu Trp
                260                     265                     270

Phe Val Gly Ile Leu Val Leu Phe Leu Asp Ile His Gly Leu Gly Thr
    275                     280                     285

Leu Ile Trp Ile Ser Phe Val Pro Leu Ile Ile Val Leu Leu Val Gly
    290                     295                     300

Thr Lys Leu Glu Met Val Ile Met Glu Met Ala Gln Glu Ile Gln Asp
305                     310                     315                     320

Arg Ala Thr Val Ile Gln Gly Ala Pro Met Val Glu Pro Ser Asn Lys
                325                     330                     335

Tyr Phe Trp Phe Asn Arg Pro Asp Trp Val Leu Phe Phe Ile His Leu
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            340                    345                    350

Thr Leu Phe His Asn Ala Phe Gln Met Ala His Phe Val Trp Thr Met
        355                 360                 365

Ala Thr Pro Gly Leu Lys Lys Cys Phe His Glu Asn Ile Trp Leu Ser
        370                 375                 380

Ile Val Glu Val Ile Val Gly Ile Ser Leu Gln Val Leu Cys Ser Tyr
385                 390                 395                 400

Ile Thr Phe Pro Leu Tyr Ala Leu Val Thr Gln Met Gly Ser Asn Met
                405                 410                 415

Lys Lys Thr Ile Phe Glu Glu Gln Thr Met Lys Ala Leu Met Asn Trp
                420                 425                 430

Arg Lys Lys Ala Met Glu Lys Lys Lys Val Arg Asp Ala Asp Ala Phe
        435                 440                 445

Leu Ala Gln Met Ser Val Asp Phe Ala Thr Pro Ala Ser Ser Arg Ser
        450                 455                 460

Ala Ser Pro Val His Leu Leu Gln Val Thr Gly Arg Val Gly Arg Pro
465                 470                 475                 480

Pro Ser Pro Ile Thr Val Ala Ser Pro Pro Ala Pro Glu Glu Asp Met
                485                 490                 495

Tyr Pro Val Pro Ala Ala Ala Ala Ser Arg Gln Leu Leu Asp Asp Pro
                500                 505                 510

Pro Asp Arg Arg Trp Met Ala Ser Ser Ser Ala Asp Ile Ala Asp Ser
        515                 520                 525

Asp Phe Ser Phe Ser Ala Gln Arg
        530                 535


<210> 19
<211> 526
<212> PRT
<213> Arabidopsis thaliana

<400> 19
Met Gly His Gly Gly Glu Gly Met Ser Leu Glu Phe Thr Pro Thr Trp
 1                   5                  10                  15

Val Val Ala Gly Val Cys Thr Val Ile Val Ala Ile Ser Leu Ala Val
                 20                  25                  30

Glu Arg Leu Leu His Tyr Phe Gly Thr Val Leu Lys Lys Lys Lys Gln
          35                  40                  45

Lys Pro Leu Tyr Glu Ala Leu Gln Lys Val Lys Glu Glu Leu Met Leu
     50                  55                  60
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Leu Gly Phe Ile Ser Leu Leu Leu Thr Val Phe Gln Gly Leu Ile Ser
 65                  70                  75                  80

Lys Phe Cys Val Lys Glu Asn Val Leu Met His Met Leu Pro Cys Ser
                 85                  90                  95

Leu Asp Ser Arg Arg Glu Ala Gly Ala Ser Glu His Lys Asn Val Thr
            100                 105                 110

Ala Lys Glu His Phe Gln Thr Phe Leu Pro Ile Val Gly Thr Thr Arg
        115                 120                 125

Arg Leu Leu Ala Glu His Ala Ala Val Gln Val Gly Tyr Cys Ser Glu
        130                 135                 140

Lys Gly Lys Val Pro Leu Leu Ser Leu Glu Ala Leu His His Leu His
145                 150                 155                 160

Ile Phe Ile Phe Val Leu Ala Ile Ser His Val Thr Phe Cys Val Leu
                165                 170                 175

Thr Val Ile Phe Gly Ser Thr Arg Ile His Gln Trp Lys Lys Trp Glu
                180                 185                 190

Asp Ser Ile Ala Asp Glu Lys Phe Asp Pro Glu Thr Ala Leu Arg Lys
            195                 200                 205

Arg Arg Val Thr His Val His Asn His Ala Phe Ile Lys Glu His Phe
210                 215                 220

Leu Gly Ile Gly Lys Asp Ser Val Ile Leu Gly Trp Thr Gln Ser Phe
225                 230                 235                 240

Leu Lys Gln Phe Tyr Asp Ser Val Thr Lys Ser Asp Tyr Val Thr Leu
            245                 250                 255

Arg Leu Gly Phe Ile Met Thr His Cys Lys Gly Asn Pro Lys Leu Asn
            260                 265                 270

Phe His Lys Tyr Met Met Arg Ala Leu Glu Asp Asp Phe Lys Gln Val
        275                 280                 285

Val Gly Ile Ser Trp Tyr Leu Trp Ile Phe Val Val Ile Phe Leu Leu
        290                 295                 300

Leu Asn Val Asn Gly Trp His Thr Tyr Phe Trp Ile Ala Phe Ile Pro
305                 310                 315                 320

Phe Ala Leu Leu Leu Ala Val Gly Thr Lys Leu Glu His Val Ile Ala
                325                 330                 335

Gln Leu Ala His Glu Val Ala Glu Lys His Val Ala Ile Glu Gly Asp
            340                 345                 350

Leu Val Val Lys Pro Ser Asp Glu His Phe Trp Phe Ser Lys Pro Gln
            355                 360                 365
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Ile Val Leu Tyr Leu Ile His Phe Ile Leu Phe Gln Asn Ala Phe Glu
    370             375             380

Ile Ala Phe Phe Phe Trp Ile Trp Val Thr Tyr Gly Phe Asp Ser Cys
385             390             395             400

Ile Met Gly Gln Val Arg Tyr Ile Val Pro Arg Leu Val Ile Gly Val
            405             410             415

Phe Ile Gln Val Leu Cys Ser Tyr Ser Thr Leu Pro Leu Tyr Ala Ile
            420             425             430

Val Ser Gln Met Gly Ser Ser Phe Lys Lys Ala Ile Phe Glu Glu Asn
        435             440             445

Val Gln Val Gly Leu Val Gly Trp Ala Gln Lys Val Lys Gln Lys Arg
    450             455             460

Asp Leu Lys Ala Ala Ala Ser Asn Gly Asp Glu Gly Ser Ser Gln Ala
465             470             475             480

Gly Pro Gly Pro Asp Ser Gly Ser Gly Ser Ala Pro Ala Ala Gly Pro
            485             490             495

Gly Ala Gly Phe Ala Gly Ile Gln Leu Ser Arg Val Thr Arg Asn Asn
            500             505             510

Ala Gly Asp Thr Asn Asn Glu Ile Thr Pro Asp His Asn Asn
        515             520             525


<210> 20
<211> 100
<212> PRT
<213> Hordeum vulgare

<400> 20
Lys Tyr Ile Lys Arg Ser Met Glu Asp Asp Phe Lys Val Val Val Gly
  1             5               10              15

Ile Ser Leu Pro Leu Trp Gly Val Ala Ile Leu Thr Leu Phe Leu Asp
            20              25              30

Ile Asn Gly Val Gly Thr Leu Ile Trp Ile Ser Phe Ile Pro Leu Val
        35              40              45

Ile Leu Leu Cys Val Gly Thr Lys Leu Glu Met Ile Ile Met Glu Met
    50              55              60

Ala Leu Glu Ile Gln Asp Arg Ala Ser Val Ile Lys Gly Ala Pro Val
65              70              75              80

Val Glu Pro Ser Asn Lys Phe Phe Trp Phe His Arg Pro Asp Trp Val
            85              90              95
```

Leu Phe Phe Ile
            100

<210> 21
<211> 100
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> SITE
<222> (23, 29, 48, 84, 85)
<223> Xaa is any amino acid

<400> 21
Lys Tyr Met Met Arg Ala Leu Glu Asp Asp Phe Lys Gln Val Val Gly
 1   5   10   15

Ile Ser Trp Tyr Leu Trp Xaa Phe Val Val Ile Phe Xaa Leu Leu Asn
                20   25   30

Val Asn Gly Trp His Thr Tyr Phe Trp Ile Ala Phe Ile Pro Phe Xaa
            35   40   45

Leu Leu Leu Ala Val Gly Thr Lys Leu Glu His Val Ile Ala Gln Leu
        50   55   60

Ala His Glu Val Ala Glu Lys His Val Ala Ile Glu Gly Asp Leu Val
 65   70   75   80

Val Lys Pro Xaa Xaa Glu His Phe Trp Phe Ser Lys Pro Gln Ile Val
                85   90   95

Leu Tyr Leu Ile
            100

<210> 22
<211> 83
<212> PRT
<213> Hordeum vulgare

<400> 22
Lys Tyr Ile Lys Arg Ser Met Glu Asp Asp Phe Lys Val Val Val Gly
 1   5   10   15

Ile Ser Leu Pro Leu Trp Gly Val Ala Ile Leu Thr Leu Phe Leu Asp
                20   25   30

Ile Asn Gly Val Gly Thr Leu Ile Trp Ile Ser Phe Ile Pro Leu Val
            35   40   45

Ile Leu Leu Cys Val Gly Thr Lys Leu Glu Met Ile Ile Met Glu Met
        50   55   60

Ala Leu Glu Ile Gln Asp Arg Ala Ser Val Ile Lys Gly Ala Pro Val
65   70   75   80

Val Glu Pro

<210> 23
<211> 83
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> SITE
<222> (23)
<223> Xaa is any amino acid

<400> 23
Lys Tyr Met Met Arg Ala Leu Glu Asp Asp Phe Lys Gln Val Val Gly
 1   5   10   15

Ile Ser Trp Tyr Leu Trp Xaa Phe Val Val Ile Phe Leu Leu Leu Asn
              20   25   30

Val Asn Gly Trp His Thr Tyr Phe Trp Ile Ala Phe Ile Pro Phe Ala
         35   40   45

Leu Leu Leu Ala Val Gly Thr Lys Leu Glu His Val Ile Ala Gln Leu
     50   55   60

Ala His Glu Val Ala Glu Lys His Val Ala Ile Glu Gly Asp Leu Val
65   70   75   80

Val Lys Pro

<210> 24
<211> 32
<212> PRT
<213> Hordeum vulgare

<400> 24
Trp Ala Val Ala Val Val Phe Ala Ala Met Val Leu Val Ser Val Leu
 1   5   10   15

Met Glu His Gly Leu His Lys Leu Gly His Trp Phe Gln His Arg His
              20   25   30

<210> 25

<211> 32
<212> PRT
<213> Arabidopsis thaliana

<400> 25
Trp Ile Ala Phe Ile Pro Phe Ala Leu Leu Leu Ala Val Gly Thr Lys
 1   5   10   15

Leu Glu His Val Ile Ala Gln Leu Ala His Glu Val Ala Glu Lys His
            20   25   30

<210> 26
<211> 17
<212> PRT
<213> Hordeum vulgare

<400> 26
Glu Pro Ser Asn Lys Phe Phe Trp Phe His Arg Pro Asp Trp Val Leu
 1   5   10   15

Phe

<210> 27
<211> 17
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> SITE
<222> (14)
<223> Xaa is any amino acid

<400> 27
Glu Thr Ser Asp Glu His Phe Trp Phe Ser Lys Pro Gln Xaa Val Leu
 1   5   10   15

Tyr

<210> 28
<211> 96
<212> PRT
<213> Hordeum vulgare

<400> 28
Ser Lys Phe Asp Phe His Lys Tyr Ile Lys Arg Ser Met Glu Asp Asp

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                    1                 5                         10                        15

                   Phe Lys Val Val Val Gly Ile Ser Leu Pro Leu Trp Gly Val Ala Ile
                                   20                  25                  30

                   Leu Thr Leu Phe Leu Asp Ile Asn Gly Val Gly Thr Leu Ile Trp Ile
                               35                  40                  45

                   Ser Phe Ile Pro Leu Val Ile Leu Leu Cys Val Gly Thr Lys Leu Glu
                           50                  55                  60

                   Met Ile Ile Met Glu Met Ala Leu Glu Ile Gln Asp Arg Ala Ser Val
                   65                  70                  75                  80

                   Ile Lys Gly Ala Pro Val Val Glu Pro Ser Asn Lys Phe Phe Trp Phe
                                   85                  90                  95
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<400> 29
```
                   Ser Arg Phe Asp Phe Arg Lys Tyr Ile Gln Arg Ser Leu Glu Lys Asp
                    1                 5                         10                        15

                   Phe Lys Thr Val Val Glu Ile Ser Pro Val Ile Trp Phe Val Ala Val
                                   20                  25                  30

                   Leu Phe Leu Leu Thr Asn Ser Tyr Gly Leu Arg Ser Tyr Leu Trp Leu
                               35                  40                  45

                   Pro Phe Ile Pro Leu Val Val Ile Leu Ile Val Gly Thr Lys Leu Glu
                           50                  55                  60

                   Val Ile Ile Thr Lys Leu Gly Leu Arg Ile Gln Glu Glu Gly Asp Val
                   65                  70                  75                  80

                   Val Arg Gly Ala Pro Val Val Gln Pro Gly Asp Asp Xaa Phe Trp Phe
                                   85                  90                  95
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<211> 45
<212> PRT
<213> Hordeum vulgare

<400> 30
Ser Ser Thr Pro Gly Ile Arg Trp Val Val Ala Phe Phe Arg Gln Phe
1   5   10   15

Phe Arg Ser Val Thr Lys Val Asp Tyr Leu Thr Leu Arg Ala Gly Phe
                20   25   30

Ile Asn Ala His Leu Ser Gln Asn Ser Lys Phe Asp Phe
        35   40   45

<210> 31
<211> 45
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> SITE
<222> (29)
<223> Xaa is any amino acid

<400> 31
Ser Lys Thr Arg Val Thr Leu Trp Ile Val Cys Phe Phe Arg Gln Phe
1   5   10   15

Phe Gly Ser Val Thr Lys Val Asp Tyr Leu Ala Leu Xaa His Gly Phe
                20   25   30

Ile Met Ala His Phe Ala Pro Gly Asn Glu Ser Arg Phe
        35   40   45

<210> 32
<211> 86
<212> PRT
<213> Hordeum vulgare

<400> 32
Ser Ser Thr Pro Gly Ile Arg Trp Val Val Ala Phe Phe Arg Gln Phe
1   5   10   15

Phe Arg Ser Val Thr Lys Val Asp Tyr Leu Thr Leu Arg Ala Gly Phe
                20   25   30

Ile Asn Ala His Leu Ser Gln Asn Ser Lys Phe Asp Phe His Lys Tyr
        35   40   45

Ile Lys Arg Ser Met Glu Asp Asp Phe Lys Val Val Val Gly Ile Ser
        50   55   60

Leu Pro Leu Trp Gly Val Ala Ile Leu Thr Leu Phe Leu Asp Ile Asn
 65   70   75   80

Gly Val Gly Thr Leu Ile
                85

<210> 33
<211> 85
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> SITE
<222> (6, 33, 51, 64, 79)
<223> Xaa is any amino acid

<400> 33
Thr Thr Thr Pro Phe Xaa Phe Asn Val Gly Cys Phe Phe Arg Gln Phe
 1   5   10   15

Phe Val Ser Val Glu Arg Thr Asp Tyr Leu Thr Leu Arg His Gly Phe
                20   25   30

Xaa Ser Ala His Leu Ala Pro Gly Arg Lys Phe Asn Phe Gln Arg Tyr
         35   40   45

Ile Lys Xaa Ser Leu Glu Asp Asp Phe Lys Leu Val Val Gly Ile Xaa
     50   55   60

Pro Val Leu Trp Ala Ser Phe Val Ile Phe Leu Ala Val Gln Xaa Trp
 65   70   75   80

Leu Gly Thr Ile Val
                85

<210> 34
<211> 57
<212> PRT
<213> Hordeum vulgare

<400> 34
Met Arg Thr Trp Lys Lys Trp Glu Thr Glu Thr Thr Ser Leu Glu Tyr
 1   5   10   15

Gln Phe Ala Asn Asp Pro Ala Arg Phe Arg Phe Thr His Gln Thr Ser
                20   25   30

Phe Val Lys Arg His Leu Gly Leu Ser Ser Thr Pro Gly Ile Arg Trp
         35   40   45

Val Val Ala Phe Phe Arg Gln Phe Phe
     50   55

<210> 35
<211> 57
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> SITE
<222> (10, 17, 19, 47)
<223> Xaa is any amino acid

<400> 35
Ile Arg Gly Trp Lys Lys Trp Glu Gln Xaa Thr Leu Ser Asn Asp Tyr
1   5   10   15

Xaa Phe Xaa Ile Asp His Ser Arg Leu Arg Leu Thr His Glu Thr Ser
            20   25   30

Phe Val Arg Glu His Thr Ser Phe Trp Thr Thr Thr Pro Phe Xaa Phe
        35   40   45

Asn Val Gly Cys Phe Phe Arg Gln Phe
    50   55

<210> 36
<211> 19
<212> PRT
<213> Hordeum vulgare

<400> 36
Thr Leu Phe Leu Asp Ile Asn Gly Val Gly Thr Leu Ile Trp Ile Ser
1   5   10   15

Phe Ile Pro

<210> 37
<211> 19
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> SITE
<222> (6)
<223> Xaa is any amino acid

<400> 37
Ser Leu Leu Phe Asn Xaa Asn Gly Trp Gly Pro Leu Phe Trp Ala Ser
1   5   10   15

Val Pro Pro

<210> 38
<211> 60
<212> PRT
<213> Hordeum vulgare

<400> 38
Val Ile Thr Ile Ala Leu Ser Arg Leu Lys Met Arg Thr Trp Lys Lys
 1   5   10   15

Trp Glu Thr Glu Thr Thr Ser Leu Glu Tyr Gln Phe Ala Asn Asp Pro
                20   25   30

Ala Arg Phe Arg Phe Thr His Gln Thr Ser Phe Val Lys Arg His Leu
        35   40   45

Gly Leu Ser Ser Thr Pro Gly Ile Arg Trp Val Val
    50   55   60

<210> 39
<211> 60
<212> PRT
<213> Arabidopsis thaliana

<400> 39
Ile Val Thr Tyr Ala Phe Gly Lys Ile Lys Met Arg Thr Trp Lys Ser
 1   5   10   15

Trp Glu Glu Glu Thr Lys Thr Ile Glu Tyr Gln Tyr Ser Asn Asp Pro
                20   25   30

Glu Arg Phe Arg Phe Ala Arg Asp Thr Ser Phe Gly Arg Arg His Leu
        35   40   45

Asn Phe Trp Ser Lys Thr Arg Val Thr Leu Trp Ile
    50   55   60

<210> 40
<211> 45
<212> PRT
<213> Hordeum vulgare

<400> 40
Ser Ser Thr Pro Gly Ile Arg Trp Val Val Ala Phe Phe Arg Gln Phe
 1   5   10   15

Phe Arg Ser Val Thr Lys Val Asp Tyr Leu Thr Leu Arg Ala Gly Phe
                20   25   30

Ile Asn Ala His Leu Ser Gln Asn Ser Lys Phe Asp Phe
        35   40   45

<210> 41
<211> 45
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> SITE
<222> (29)
<223> Xaa is any amino acid

<400> 41
Ser Lys Thr Arg Val Thr Leu Trp Ile Val Cys Phe Phe Arg Gln Phe
 1   5   10   15

Phe Gly Ser Val Thr Lys Val Asp Tyr Leu Ala Leu Xaa His Gly Phe
                20   25   30

Ile Met Ala His Phe Ala Pro Gly Asn Glu Ser Arg Phe
            35   40   45

<210> 42
<211> 21
<212> PRT
<213> Hordeum vulgare

<400> 42
Ser Lys Phe Asp Phe His Lys Tyr Ile Lys Arg Ser Met Glu Asp Asp
 1   5   10   15

Phe Lys Val Val Val
            20

<210> 43
<211> 21
<212> PRT
<213> Arabidopsis thaliana

<220>
<221> SITE
<222> (14, 15)
<223> Xaa is any amino acid

<400> 43
Ser Arg Phe Asp Phe Arg Lys Tyr Ile Gln Arg Ser Leu Xaa Xaa Asp
 1   5   10   15

Phe Lys Thr Val Val
            20

<210> 44
<211> 53
<212> PRT
<213> Hordeum vulgare

<400> 44
Ser Lys Phe Asp Phe His Lys Tyr Ile Lys Arg Ser Met Glu Asp Asp
  1   5   10   15

Phe Lys Val Val Val Gly Ile Ser Leu Pro Leu Trp Gly Val Ala Ile
            20   25   30

Leu Thr Leu Phe Leu Asp Ile Asn Gly Val Gly Thr Leu Ile Trp Ile
          35   40   45

Ser Phe Ile Pro Leu
        50

<210> 45
<211> 53
<212> PRT
<213> Oryza sativa

<220>
<221> SITE
<222> (12, 27, 51)
<223> Xaa is any amino acid

<400> 45
Thr Arg Phe Asn Phe Arg Lys Tyr Ile Lys Arg Xaa Leu Glu Asp Asp
  1   5   10   15

Phe Lys Thr Val Val Gly Ile Ser Ala Pro Xaa Trp Ala Ser Ala Leu
            20   25   30

Ala Ile Met Leu Phe Asn Val His Gly Trp His Asn Leu Phe Trp Phe
          35   40   45

Ser Thr Xaa Pro Leu
        50

<210> 46
<211> 15
<212> PRT
<213> Hordeum vulgare

<400> 46
Pro Leu Val Ile Leu Leu Cys Val Gly Thr Lys Leu Glu Met Ile
  1   5   10   15

<210> 47
<211> 15
<212> PRT
<213> Oryza sativa

<220>
<221> SITE
<222> (3)
<223> Xaa is any amino acid

<400> 47
Pro Leu Xaa Val Thr Leu Ala Val Gly Thr Lys Leu Gln Ala Ile
 1   5   10   15

<210> 48
<211> 58
<212> PRT
<213> Hordeum vulgare

<400> 48
His Trp Phe Gln His Arg His Lys Lys Ala Leu Trp Glu Ala Leu Glu
 1   5   10   15

Lys Met Lys Ala Glu Leu Met Leu Val Gly Phe Ile Ser Leu Leu Leu
            20   25   30

Ile Val Thr Gln Asp Pro Ile Ile Ala Lys Ile Cys Ile Ser Glu Asp
            35   40   45

Ala Ala Asp Val Met Trp Pro Cys Lys Arg
         50   55

<210> 49
<211> 58
<212> PRT
<213> Oryza sativa

<220>
<221> SITE
<222> (2)
<223> Xaa is any amino acid

<400> 49
His Xaa Ser Glu Lys Thr His Arg Asn Pro Leu His Lys Ala Met Glu
 1   5   10   15

Lys Met Lys Glu Glu Met Met Leu Leu Gly Phe Ile Ser Leu Leu Leu
            20   25   30

Ala Ala Thr Ser Arg Ile Ile Ser Gly Ile Cys Ile Asp Ser Lys Tyr
            35   40   45

Tyr Asn Ser Asn Phe Ser Pro Cys Thr Arg

<210> 50
<211> 382
<212> DNA
<213> Arabidopsis thaliana

<220>
<221> misc_feature
<222> (68, 88, 143, 181, 251, 254, 328, 333, 337, 341)
<223> n is a or g or c or t

<220>
<221> misc_feature
<222> (348, 349, 356, 357, 368, 370, 372, 373, 381)
<223> n is a or g or c or t

<400> 50
caagtatatg atgcgcgctc tagaggatga tttcaaacaa gttgttggta ttagttggta 60
tctttggntc tttgtcgtca tcttttnct gctaaatgtt aacggatggc acacatattt 120
ctggatagca tttattccct ttnctttgct tcttgctgtg ggaacaaagt tggagcatgt 180
nattgcacag ttagctcatg aagttgcaga gaaacatgta gccattgaag gagacttagt 240
ggtgaaaccc ncanatgagc atttctggtt cagcaaacct caaattgttc tctacttgat 300
cccattttat cctctttccc agaatgcntt ttnagantgc nttttttnnt tttggnnttt 360
ggggtaanan annggtttcg nc 382

<210> 51
<211> 390
<212> DNA
<213> Arabidopsis thaliana

<220>
<221> misc_feature
<222> (68, 181, 284, 296, 302, 331, 333, 339..341, 351, 357)
<223> n is a or g or c or t

<220>
<221> misc_feature
<222> (358, 366..369, 378, 380)
<223> n is a or g or c or t

<400> 51
caagtatatg atgcgcgctc tagaggatga tttcaaacaa gttgttggta ttagttggta 60
tctttggntc tttgtcgtca tcttttgct gctaaatgtt aacggatggc acacatattt 120
ctggatagca tttattccct ttgctttgct tcttgctgtg ggaacaaagt tggagcatgt 180
nattgcacag ttagctcatg aagttgcaga gaaacatgta gccattgaag gagacttagt 240
ggtgaaacct cagatgagca tttctggttc agcaaacctc aaantgttct ctactngatc 300
cnctttatcc cccttccaga atgccttttt nangattcnn nttttccttt nttgganntt 360
ttgggnnnnc aaacgggntt nggacctccg 390

<210> 52

<211> 585
<212> DNA
<213> Arabidopsis thaliana

<220>
<221> misc_feature
<222> (87, 404, 415, 417, 420, 425, 432, 439, 442)
<223> n is a or g or c or t

<220>
<221> misc_feature
<222> (449, 460, 480, 485, 493, 511, 515, 527, 530, 551)
<223> n is a or g or c or t

<220>
<221> misc_feature
<222> (558, 567, 571, 582)
<223> n is a or g or c or t

<400> 52
agcaagacga gagtcacact atggattgtt tgtttttta gacagttctt tggatctgtc 60
accaaagttg attacttagc actaagncat ggtttcatca tggcgcattt tgctcccggt 120
aacgaatcaa gattcgattt ccgcaagtat attcagagat cattagagaa agacttcaaa 180
accgttgttg aaatcagtcc ggttatctgg tttgtcgctg tgctattcct cttgaccaat 240
tcatatggat tacgttctta cctctggtta ccattcattc cactagtcgt aattctaata 300
gttggaacaa agcttgaagt cataataaca aaattgggtc taaggatcca agaggaaggt 360
gatgtggtga gaggcgcccc agtggttcag cctggtgatg accncttctg gtttngnaan 420
cacgnttcaa tnttttccnt antcacttng gcctttttan gggtgaattt caacttcatn 480
ctttncctgg ggncggatga ttcaatccaa naatnttccc ctgaagnctn caagtttggg 540
cataggcttt nggtgggntt ttcaganttt nagtttggct tnccc 585

<210> 53
<211> 460
<212> DNA
<213> Arabidopsis thaliana

<220>
<221> misc_feature
<222> (117, 243, 323, 325, 388, 407, 409, 414, 417, 419)
<223> n is a or g or c or t

<220>
<221> misc_feature
<222> (435, 446, 458)
<223> n is a or g or c or t

<400> 53
tgcattgtta cttatgcttt cggaaagatc aagatgagga cgtggaagtc gtgggaggaa 60
gagacaaaga caatagagta tcagtattcc aacgatcctg agaggttcag gtttgcnagg 120
gacacatctt ttgggagaag acatctcaat ttctggagca agacgagagt cacactatgg 180
attgtttgtt tttttagaca gttctttgga tctgtcacca aagttgatta cttagcacta 240
agncatggtt tcatcatggc gcattttgct cccggtaacg aatcaagatt cgatttccgc 300
aagtatattc agagatcatt agngnaagac ttcaaaaccg ttgtttgaaa tcagtccggt 360
tatctggttt gtcggctgtg ctattccnct tgaccaattc atatggntnc ggtnttncnc 420

<210> 54
<211> 476
<212> DNA
<213> Arabidopsis thaliana

<220>
<221> misc_feature
<222> (30, 49, 55, 102, 132, 140, 183, 221, 274, 315)
<223> n is a or g or c or t

<220>
<221> misc_feature
<222> (360, 388, 401, 408, 411, 443, 469, 473, 474)
<223> n is a or g or c or t

<400> 54
attcgtggat ggaaaaagtg ggagcaagan acattatcta atgactatna gtttnctatt 60
gatcattcaa gacttaggct cactcatgag acttcttttg tnagagaaca tacaagtttc 120
tggacaacaa cncctttctn ctttaacgtc ggatgcttct ttaggcagtt ctttgtatct 180
gtngaaagaa ccgactactt gactctgcgc catggattca nctctgccca tttagctcca 240
ggaagaaagt tcaacttcca gagatatatc aaangatctc tcgaggatga tttcaagttg 300
gtagttggaa taagnccagt tctttgggca tcatttgtaa tcttccttgc tgttcaatgn 360
taatggctgg ggaccattgt tttgggcntc ggtaccgcct ntactcanaa ncccaggctt 420
ttggccaagg ttcaaggaat ttngggacaa tggggtagaa tcgtgggcnc atnngg   476

<210> 55
<211> 400
<212> DNA
<213> Oryza sativa

<220>
<221> misc_feature
<222> (3, 5, 9, 10, 17, 18, 20, 22, 32..35, 37, 41)
<223> n is a or g or c or t

<220>
<221> misc_feature
<222> (43, 45, 47, 50..53, 62, 65, 68, 71, 73, 75, 80, 81)
<223> n is a or g or c or t

<220>
<221> misc_feature
<222> (89..91, 100, 107, 108, 113..115, 134, 153, 167, 176)
<223> n is a or g or c or t

<220>
<221> misc_feature
<222> (235, 280, 354, 362)
<223> n is a or g or c or t

<400> 55
tcntntttnn ttttcgnntn cntccacccc tnnnntnctc nancncnttn nnnttatctc 60
tnttnttntc ncntntcccn ncaccaccnn ncgacgggcn tggactnngc ccnnngttcg 120

```
aggctgccca ctgncgtctg agacctacct tgncatttga cggcacngga cttcanttgc 180
tgctcacttt atctctacgg gactaggttc aattttcgga aatacatcaa aaggncactg 240
gaggacgatt ttaagacagt tgttggcatt agtgcacccn tatgggcttc tgcgttggcc 300
attatgctct tcaatgttca tggatggcat aacttgttct ggttctctac aatnccccTt 360
gntagtaact ttagcagttg gaacaaagct gcaggctata              400
```

<210> 56
<211> 325
<212> DNA
<213> Oryza sativa

<220>
<221> misc_feature
<222> (164)
<223> n is a or g or c or t

<400> 56
```
cagactacct gactttgagg cacggattca ttgctgctca tttatctcta gggactaggt 60
tcaattttcg gaaatacatc aaaaggtcac tggaggacga ttttaagaca gttgttggca 120
ttagtgcacc cttatgggct tctgcgttgg ccattatgct cttnaatgtt catggatggc 180
ataacttgtt ctggttctct acaatccccc ttgtagtaac tttagcagtt ggaacaaagc 240
tgcaggctat aattgcaatg atggctgttg aaattaaaga gaggcataca gtaattcaag 300
gaatgccggt ggtgaactca gtgat                            325
```

<210> 57
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 57
```
gtgcatctgc gtgtgcgta                                   19
```

<210> 58
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 58
```
gtgtgcgtac ctggtagag                                   19
```

<210> 59
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer
```

```
<400> 59
aacgacgtct ggtgcgtg                                          18


<210> 60
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 60
tgcagctata tgaccttccc cctc                                   24


<210> 61
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 61
ggacatgctg atggctcaga                                        20


<210> 62
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 62
cagaacttgt ctcatccctg                                        20


<210> 63
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 63
ggctatacat tgggactaac a                                      21


<210> 64
<211> 21
<212> DNA
<213> Artificial Sequence
```

<220>
<223> Description of Artificial Sequence: Primer

<400> 64
cgaatcatca catcctatgt t   21

<210> 65
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 65
gcaagttcga cttccac   17

<210> 66
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 66
tcgacttcca caagtacatc a   21

<210> 67
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 67
agcgtacctg cgtacgtag   19

<210> 68
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 68
gttgccacac tttgccacg   19

<210> 69

```
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 69
aagccaagac gacaatcaga                                              20


<210> 70
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 70
grrgccacac tttgccacg                                               19


<210> 71
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 71
aagccaagac gacaatcaga                                              20


<210> 72
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 72
gtgcatctgc gtgtgcgta                                               19


<210> 73
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 73
cagaaacttg tctcatccct g                                            21
```

<210> 74
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 74
agggtcagga tcgccac   17

<210> 75
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 75
ttgtggaggc cgtgttcc   18

<210> 76
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 76
tgcagctata tgaccttccc cctc   24

<210> 77
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<400> 77
ggacatgctg atggctcaga   20

<210> 78
<211> 5
<212> PRT
<213> Hordeum vulgare

<400> 78
Lys Lys Lys Val Arg

<210> 79
<211> 4
<212> PRT
<213> Hordeum vulgare

<400> 79
Ser Ile Phe Asp
  1